

## Use Case 14: SCADA Data Update

### Summary:

When new SCADA data values are received, updates operations model and active displays with new SCADA data values, alarms status changes if required, and logs power system changes

### Actor(s):

Name	Role description
System Operator	Monitors and controls system operation
Telemetry Interfaces	Provides telemetry data in the form of analog measurements, status, or accumulator data from substation, neighboring control center, or field device

### Probable Participating Systems:

System	Services or information provided
User Interface	Manual update of information.
Power System State Model	Creates the best estimate of current state of the power system.
Alarm System	Forces notifications to the human user's attention.
History/Logging	Records power system events.

### Pre-conditions:

System is operational.

### Assumptions / Design Considerations:

State any known assumptions, limitations, or constraints that may affect this use case. Consider:

- Timing requirements: May be periodic or unsolicited
- Frequency of use: Periodic - may be updated as often as once every two seconds from Telemetry Interface
- Sizing characteristics: typically multiple updates per period

There may be any number of different telemetry sources which initiate this sequence of actions, or the data may be manually entered or generated by an application.

There may be any number of sequences of actions which trigger themselves off this basic sequence.

**Normal Sequence:**

Use Case Step	Description
Step 1	New raw measurement set is made available.
Step 2	Measurements are associated with the power system model, which is reevaluated.
Step 3	New model state is made available.
Step 4	Status changes in the new state are made available, such as: <ul style="list-style-type: none"> <li>• Branches open or closed</li> <li>• Equipment energized or de_energized</li> <li>• Islands created or combined</li> <li>• Limits crossed</li> </ul>
Step 5	Active user interfaces are updated.
Step 6	Status changes are alarmed if required.
Step 7	All power system changes are logged. <ul style="list-style-type: none"> <li>• For reporting</li> <li>• For reconstruction of state if required</li> </ul>

**Exceptions / Alternate Sequences:**

None

**Post-conditions:****References:**

None

**Issues:**

ID	Description	Status
1.		

**Revision History:**

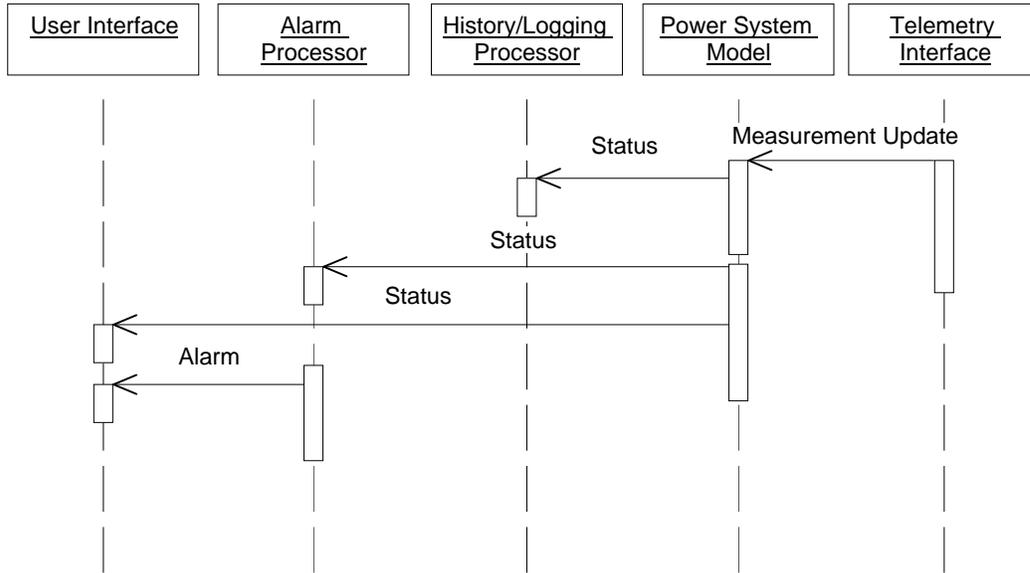
No	Date	Author	Description
0.	3/11/98	T. Saxton	Original
1	3/19/98	J. Britton	Made Telemetry Interface an Actor, added several Participating Systems, added more detail to sequence of steps

**Use Case Diagram:****1 See Volt Var Optimization Use Case**

Event Sequence Diagram:

Observer Pattern

SCADA Data Update



Event trigger - New raw measurement set is acquired